WHAT IS CLAIMED IS:

1. A method for monitoring a packet transmission path between in a network to determine conversational voice quality of Voice-over-Packet transmissions across said path, comprising the steps of:

injecting at least one probe packet for transport across the transmission path;

measuring packet delay and packet loss for said probe packet across said path;

establishing an analytic value for voice quality impairment due to delay in accordance with measured packet delay;

establishing an analytic value for voice quality impairment due to said network in accordance with packet loss; and

deriving a measure of overall conversational voice quality associated with the transmission path in accordance with the algebraic sum of the analytic values for voice quality impairment due to delay and voice quality impairment due to loss in said network.

2. The method according to claim 1 wherein the steps are performed at various times to obtain measurements of the voice quality at different intervals.

3. The method according to claim 1 wherein the analytic value for voice quality impairment due to delay (I_d) is obtained in accordance with the relationship:

$$I_d = b_1 d + b_2(d-b_3)H(d-b_3)$$

where b_1=0.024/ms, b_2=0.11/ms and b_3 =177.3 ms, d is the measured delay and $H(x)$ is the Heavyside function.

4. The method according to claim 1 wherein the analytic value for voice quality impairment due to said network (I_{ef}) is obtained in accordance with the relationship:

$$I_{ef} \cong g_1 + g_2 \ln(1 + g_3 e)$$

where:

g_1, g_2 and g_3 are parameters of curve fitting and e is the measured packet loss.

5. The method according to claim 3 wherein the analytic value for voice quality impairment due to said network (I_{ef}) is obtained in accordance with the relationship:

$$I_{ef} \cong g_1 + g_2 \ln(1 + g_3 e)$$

where:

g_1, g_2 and g_3 are parameters of curve fitting and e is the measured packet loss.

6. The method according to claim 5 wherein the overall measure of conversational voice quality (R) associated with the transmission path is given by the relationship:

$$R \sim 94.2 - b_1 d - b_2(d-b_3)H(d-b_3) - g_1 + g_2 \ln(1 + g_3 e)$$

7. A system for measuring monitoring a packet transmission path between in a network to determine conversational voice quality of Voice-over-Packet transmissions across said path, said system including a processor connected to the network, the processor monitoring the voice quality by performing the steps of:

injecting at least one probe packet for transport across the transmission path;

measuring packet delay and packet loss for said probe packet across said path;

establishing an analytic value for voice quality impairment due to delay in accordance with measured packet delay;

establishing an analytic value for voice quality impairment due to said network in accordance with packet loss; and

deriving a measure of overall conversational voice quality associated with the transmission path in accordance with the algebraic sum of the analytic values for voice quality impairment due to delay and voice quality impairment due to loss in said network.

8. The system according to claim 7 wherein the processor establishes the analytic value for voice quality impairment due to delay (I_d) in accordance with the relationship:

$$I_d = b_1 d + b_2(d-b_3)H(d-b_3)$$

where b_1=0.024/ms, b_2=0.11/ms and b_3 =177.3 ms, d is the measured delay and $H(x)$ is the Heavyside function.

9. The method according to claim 8 wherein the processor establishes the analytic value for voice quality impairment due to said network (I_{ef}) in accordance with the relationship:

$$I_{ef} \cong g_1 + g_2 \ln(1 + g_3 e)$$

where:
g_1, g_2 and g_3 are parameters of curve fitting and e is the measured packet loss.

10. The method according to claim 9 wherein the processor obtains an overall measure of conversational voice quality (R) associated with the transmission in accordance with the relationship:

$$R \sim 94.2 - b_1 d - b_2(d-b_3)H(d-b_3) - g_1 + g_2 \ln(1 + g_3 e)$$